

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>A 214 PCT</b>	<div style="display: flex; justify-content: space-between;"> <div>FOR FURTHER ACTION</div> <div>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</div> </div>	
International application No. <b>PCT/SE 2004/001882</b>	International filing date ( <i>day/month/year</i> ) <b>16 December 2004</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>19 December 2003</b>
Applicant <b>Andersson, Kurt</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☒ Certain claims were found unsearchable (see Box No. II)

3. ☐ Unity of invention is lacking (see Box No. III)

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/SE2004/001882**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☒ Claims Nos.: 10  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
  
See supplement sheet
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 2004/001882

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C02F 1/74, B01F 3/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B01D, C02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6036178 A (B. NILSSON), 14 March 2000 (14.03.2000), figure 1, claim 1  --	1-3,6,7, 11-14
A	US 3852384 A (J.E. BEARDEN), 3 December 1974 (03.12.1974), column 3, line 23 - line 31; column 4, line 61 - line 67, figure 2  --	1-9,11-14
A	EP 0731062 A2 (MASS TRANSFER INTERNATIONAL LTD.), 11 Sept 1996 (11.09.1996), figure 2, claim 1  -- -----	1-9,11-14

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

30 March 2005

Date of mailing of the international search report

14-04-2005

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Bengt Christensson / MRo

Telephone No. +46 8 782 25 00

## INTERNATIONAL SEARCH REPORT

Information on patent family members

01/04/2005

International application No.

PCT/SE 2004/001882

US	6036178	A	14/03/2000	AT	198311	T	15/01/2001
				AU	696022	B	27/08/1998
				AU	6247796	A	22/01/1997
				CN	1101787	B,C	19/02/2003
				CN	1188461	A	22/07/1998
				CZ	289984	B	15/05/2002
				CZ	9704138	A	13/05/1998
				DE	69611384	D,T	09/08/2001
				DK	871594	T	26/03/2001
				EA	135	B	00/00/0000
				EE	9700367	A	15/06/1998
				EP	0871594	A,B	21/10/1998
				HU	9901689	A	30/08/1999
				NO	975824	A	19/12/1997
				PL	183241	B	28/06/2002
				PL	324111	A	11/05/1998
				SE	504449	C	17/02/1997
				SE	9502269	A	23/12/1996
				SK	172497	A	08/07/1998
				WO	9700831	A	09/01/1997
				AT	247008	T	15/08/2003
				AU	720282	B	25/05/2000
				AU	2110797	A	16/09/1997
				BR	9707715	A	06/04/1999
				CA	2247987	A,C	04/09/1997
				CN	1079749	B,C	27/02/2002
				CN	1212658	A	31/03/1999
				CZ	294678	B	16/02/2005
				CZ	9802555	A	17/03/1999
				DE	69724103	D,T	27/05/2004
				DK	883512	T	01/12/2003
				EE	3671	B	15/04/2002
				EE	9800268	A	15/02/1999
				EP	0883512	A,B	16/12/1998
				SE	0883512	T3	
				ES	2203785	T	16/04/2004
				HU	223745	B	28/12/2004
				HU	9901052	A	28/07/1999
				IL	125772	A	08/08/2001
				JP	2000506095	T	23/05/2000
				NO	983889	A	25/08/1998
				PL	183252	B	28/06/2002
				PL	328461	A	01/02/1999
				PT	883512	T	31/12/2003
				SE	9600817	D	00/00/0000
				SK	111698	A	14/02/2000
				US	6027167	A	22/02/2000
				WO	9731800	A	04/09/1997

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US	3852384	A	03/12/1974	NONE
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EP	0731062	A2	11/09/1996	GB	2299076	A	25/09/1996
				GB	9504784	D	00/00/0000
				US	5783069	A	21/07/1998

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## Box III

The embodiment of the invention described in claim 10 does not fall within the scope of claim 1. This inconsistency between the claims leads to doubt concerning the matter for which protection is sought, thereby rendering claim 10 unclear (Article 6 PCT).

According to claim 1 at least one helical means (8) extends around through-flow portions (6a). This fact contradicts the information in claim 10. According to claim 10 the through-flow portion (6a) is provided with no parts of members within the helical means (8).